



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/088,342      | 04/08/2003  | Yoshiyuki Miyaki     | ATOCM 253           | 9258             |

23599 7590 07/01/2004

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.  
2200 CLARENDON BLVD.  
SUITE 1400  
ARLINGTON, VA 22201

|          |
|----------|
| EXAMINER |
|----------|

HU, HENRY S

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1713

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/088,342

Applicant(s)

MIYAKI ET AL.

Examiner

Henry S. Hu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Amendment of April 20, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,11,16-18 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-8, 11 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1,4-9,11,16-18 and 21-23 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is in response to the Amendment filed on April 20, 2004. Claims 1, 4-9 and 11 were amended, Claims 2-3, 10 and 12-15 and 19-20 were canceled, and **new parent Claims 21-23** were added. **Parent Claims 1 and 7-8** were amended to only recite the limitation of Claim 2 that using “**a homopolymer of vinylidene fluoride**”. **New Parent Claims 21-23 relate to Claim 1 but using at least one fluorinated homopolymer to be mixed with resin B' and in the form of solution or emulsion.**

With respect to the specification objections (a) - (f), the Applicants have corrected all informalities as suggested by the examiner. In view of above amendment, the specification objections (a) - (f), claim objections for Claims 1, 3 and 5-8, and 112-2<sup>nd</sup> claim rejection are now removed.

2. Applicants **elected the invention of Group I, Claims 1, 4-8, 11 (claims 2-3, 10 and 12-13 were canceled) and new Claims 21-23 (joined by the examiner) with traverse.** The traversal is on the ground(s) that the Office has not provided adequate reasons and/or examples to support the patentable distinctness for the non-elected group containing Claims 9 and 16-18 drawn to an electrode of battery. This is not found persuasive because Group I is drawn to an adhesive resin composition as well as its solution, dispersion or emulsion, which is a technology apparently requiring search of a single class/subclass area. **To use such a specific composition**

Art Unit: 1713

**in the binder for battery becomes a new subject matter.** Even the composition in Group I is used as a binder for Group II, it may contains materially different components to become the binder for electrode. In a close examination, Group I is not limited to prepare a resin film product for Group II, while Group II does not necessarily use the composition of Group I. Therefore the examiner maintains the restriction.

The requirement is still deemed proper and is therefore made **FINAL**.

This application contains **Claims 9 and 16-18** (Claims 14-15 and 19-20 were canceled) drawn to an invention nonelected with traverse. A complete reply to the final rejection must include **cancellation of nonelected claims** or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

3. **Claims 1, 4-9, 11, 16-18 and 21-23 are now pending. Claims 9 and 16-18 are withdrawn from consideration.** An action follows.

#### ***Response to Argument***

4. Applicant's Amendment filed on April 20, 2004 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows:

5. **Applicants:** Applicant has claimed an unexpected way of obtaining an adhesive resin composition comprising **a homopolymer of vinylidene fluoride and a resin B' which is**

Art Unit: 1713

**obtained by partial dehydrogenfluoride reaction, followed by oxidation.** Due to the fact that Cluff only discloses using the same type of copolymers on component A and B' (see column 6, line 30-55), the Applicants claim that by narrowing down from a fluorinated copolymer to a VDF homopolymer. Therefore, none of the prior art including Cluff et al. and Phillips et al. has the above limitation.

6. **Examiner:** Since all six parent Claims 1, 7-8 and 21-23 are still carrying the same scope of limitations, particularly in resin A by using a **homopolymer of vinylidene fluoride or just using a fluorinated homopolymer**. As discussed in the previous office action for the rejection of **Claims 1 and 7-8**, Cluff et al. prepared the claimed resin B' from a copolymer of vinylidene fluoride and hexafluoropropylene (see various working examples 1-8) and used it as a plasticizer copolymer (A) for mixing with copolymer VF<sub>2</sub>/HFP (B) as shown in the Table on column 6 at line 35-48.

7. The limitation of amended parent Claim 1 in present invention relates to *an adhesive resin composition comprising (A) at least one resin made from a homopolymer of vinylidene fluoride and (B') at least one resin made from a fluorine-containing monomer said resin (B') being chemically denatured by partial dehydrogenfluoride reaction, followed by oxidation, the weight ratio of A/B' being 30/70 to 99/1. The other five parent Claims 7-8 and 21-23 relate to the limitation of Claim 1 but with different forms such as solution or emulsion. See other limitations of dependent Claims 4-6 and 11.*

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4-8, 11 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cluff (US 3,147,314).

Regarding the rejection of Claims **1, 4-8, 11 and 21-23**, the discussion of the disclosures of the prior art of Cluff for original Claims 1-8 and 10-13 of previous office action (01-20-2004) is incorporated here by reference.

Regarding the six parent claims, **Claims 1 and 7-8** was only amended to recite the limitation of Claim 2 that using “**a homopolymer of vinylidene fluoride**”, while new **Claims 21-23 relate to Claim 1 but using at least one fluorinated homopolymer to be mixed with resin B' and in the form of solution or emulsion**. As discussed in the previous office action for the rejection of **Claims 1 and 7-8**, Cluff et al. prepared the claimed resin B' from a copolymer of vinylidene fluoride and hexafluoropropylene (see various working examples 1-8) and used it as a plasticizer copolymer (A) for mixing with copolymer VF<sub>2</sub>/HFP (B) as shown in

the Table on column 6 at line 35-48. Although the Applicants have made some amendment on original claims and have added new Claims, all the claims are still drawn to the same features of original Claims 1-20 and **are thereby still under the scope of previous rejections.**

10. It is noted by the examiner that **there is always a better compatibility between Cluff's copolymer mixture since both resins are from VDF/HFP, while present application will get either lower compatibility when resin B' is a different fluoropolymer or similar compatibility when B' is also from the same VDF homopolymer.** It is noted that Cluff may not mixing a homopolymer of VDF with a plasticizer of homopolymer or copolymer. In order to distinguish from Cluff's unique finding as well as to show novelty, a presentation of unexpected results by comparing with Cluff's copolymer mixture would be thereby suggested.

11. With respect to new **Claims 21-23**, all directly relate to Claim 1 **but using at least one fluorinated homopolymer to be mixed with resin B' and in the form of solution or emulsion.** Therefore, the same rational recited in the rejection of original Claims 1-8 and 10-13 can be applied to reject Claims 1, 4-8, 11, 16-18 and 21-23.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1713

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 1, 4-8, 11 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US 3,560,595) in view of Cluff (US 3,147,314).

Regarding the rejection of Claims **1, 4-8, 11 and 21-23**, the discussion of the disclosures of the prior art of **Phillips/Cluff** for Claims 1-8 and 10-13 of previous office action (01-20-2004) is incorporated here by reference. The discussion of the disclosures of the prior art of **Cluff** for Claims 1, 4-8, 11 and 21-23 of this office action is also incorporated here by reference.

The same rational recited in the above rejections, Claims 1, 4-8, 11 and 21-23 by Cluff as well as for original Claims 1 and 7-8 by Phillips/Cluff, can be thereby combined and applied to reject Claims 1, 4-8, 11, 16-18 and 21-23.



*Conclusion*

14. Applicant's amendment **necessitated the new ground(s) of rejection presented in this Office action**. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

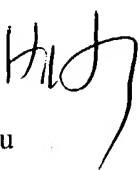
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications.

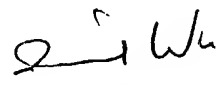
Art Unit: 1713

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

June 28, 2004



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700